

**Notice of Allowability**

Application No.

10/730,452

Examiner

Juan A. Torres

Applicant(s)

SHATTIL, STEVE J.

Art Unit

2611

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment - After Non-Final Rejection, filed 10/23/2007.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

## **DETAILED ACTION**

### ***Drawings***

The modifications to the drawings were received on 10/23/2007. These modifications are accepted by the Examiner.

In view of the amendment filed on 10/23/2007, the Examiner withdraws Drawing objections of the previous Office action.

### ***Specification***

The modifications to the specification were received on 10/23/2007. These modifications are accepted by the Examiner.

In view of the amendment filed on 10/23/2007, the Examiner withdraws Specification objections of the previous Office action.

### ***Claim Objections***

The modifications to the claims were received on 10/23/2007. These modifications are accepted by the Examiner.

In view of the amendment filed on 10/23/2007, the Examiner withdraws claim objections to claims 1-9 of the previous Office action.

### ***Response to Arguments***

Applicant's arguments, see Amendment - After Non-Final Rejection, filed 10/23/2007, with respect to Claims 1, 10 and 13 have been fully considered and are persuasive. The rejection of claims 1, 10 and 13 has been withdrawn.

### ***Allowable Subject Matter***

Claims 1-13 are allowed.

The following is an examiner's statement of reasons for allowance: claims 1-13 are allowed because a comprehensive search of prior art failed to teach, either alone or in combination, a carrier interferometry (CI) transmission system employing peak-to-average power ratio (PAPR)-reduction signaling, the CI transmission system including a symbol-mapping module adapted to allocate a predetermined number of data bits to a predetermined set of subchannels, a CI coder adapted to perform at least one predetermined combination of data spreading and channel coding to produce a plurality of input symbols, a carrier-generator module adapted to associate the input symbols with at least one set of subchannels and generate a corresponding time-domain sequence representing a data-payload signal, and an unloaded channel-encoding module adapted to select unloaded subchannels for transmission of at least one PAPR-reduction signal (see figure 5A) ; a multicarrier transmission system adapted to reduce the effects of high peak-to-average power ratio (PAPR) including a carrier interferometry (CI) coder adapted to spread a least one data sequence with at least one set of CI codes for generating at least one set of CI-coded symbols, a sub-carrier generator adapted to map the at least one set of CI-coded symbols onto a plurality of subcarriers, a plurality of combiners adapted to combine sets of the plurality of carriers for producing a plurality of CI-coded time-domain sequences that are characterized by low PAPR, and , a plurality of power amplifiers coupled to the plurality of combiners, the amplifiers adapted to amplify the plurality of CI-coded time-domain sequences (see figure 10A); and a multicarrier signal generator including a pulse-train generator adapted to generate a sequence of pulse waveforms having a predetermined spectrum, a carrier

Art Unit: 2611

interferometry (CI) coder capable of generating at least one CI code, and a carrier selector coupled to the CI coder and the pulse-train generator, the carrier selector adapted to impress the at least one CI code onto the sequence of pulse waveforms to shape the predetermined spectrum (see figure 12), as the applicant has claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is 571-272-3119. The examiner can normally be reached on 8-6 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Juan Alberto Torres  
10-27-2007

  
MOHAMMED GHAYOUR  
SUPERVISORY PATENT EXAMINER